

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A slide door opening and closing device for a vehicle, comprising:

a step panel positioned at an under part of a side opening of the vehicle;

a wire winding pulley provided at in the step panel;

the wire winding pulley being driven by a motor;

a driven pulley;

a lower roller supporting member; and

a wire wound to the wire winding pulley and the driven pulley;

wherein the wire comprises two wires, one end of each wire being fixed to the wire winding pulley having a rotation axis pointing in an approximately horizontal direction, the other end of each wire is attached to the lower roller supporting member through a spring;

the end of each wire is engaged in a respective through-hole of a housing;

the end of one wire and the end of the other wire extending in opposite directions in an approximately horizontal direction.

2. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 1, wherein the lower roller supporting member includes:

a bracket fixed to the slide door and rotatably supporting a lower roller;

the housing being fixed to the bracket; and

an engaging member accommodated in the housing and fixed to the other end of each wire;

wherein one end of the spring contacts with the engaging member and the other end of the spring contacts with an inner wall of the housing.

3. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 2, wherein the housing is accommodated in a case fixed to the bracket.

4. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 1, wherein the driven pulley includes at least a front pulley, a rear pulley and an idle pulley provided between the front pulley and the rear pulley, the lower roller supporting member moves along a path including a straight line path and a curved line path, and the wire is separated from the idle pulley when the lower roller supporting member passes the curved line path.

5. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 2, wherein the driven pulley includes at least a front pulley, a rear pulley and an idle pulley provided between the front pulley and the rear pulley, the lower roller supporting member moves along a path including a straight line path and a curved line path, and the wire is separated from the idle pulley when the lower roller supporting member passes the curved line path.

6. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 1, wherein the wire extends in a straight line between the driven pulley and the wire winding pulley.

7. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 4, wherein the wire extends in a straight line between the driven pulley and the wire winding pulley.

8. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 5, wherein the wire extends in a straight line between the driven pulley and the wire winding pulley.

9. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 4, wherein the idle pulley is provided at the vicinity of the curved line path.

10. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 5, wherein the idle pulley is provided at the vicinity of the curved line path.

11. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 9, wherein the idle pulley contacts the two wires at a vehicle outer side.

12. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 10, wherein the idle pulley contacts the two wires at a vehicle outer side.

13. (Currently Amended) A slide door opening and closing device for a vehicle, comprising:

a step panel positioned at an under part of a side opening of the vehicle;

a wire winding pulley provided at in the step panel, the wire winding pulley being oriented so that a rotation axis of the wire winding pulley extends in an approximately horizontal direction;

a motor operatively connected to the wire winding pulley to drive the wire winding pulley;

a driven pulley;

a lower roller supporting member;

a first wire comprising one end fixed to the wire winding pulley and an opposite end fixed to the lower roller supporting member through a first spring, the first wire being wound on the driven pulley; and

a second wire comprising one end fixed to the wire winding pulley and an opposite end fixed to the lower roller supporting member through a second spring, the second wire being wound on the driven pulley.

14. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 13, wherein the lower roller supporting member comprises

a housing, the opposite end of the first wire and the opposite end of the second wire being connected to the housing.

15. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 14, wherein the opposite end of the first wire extends through a through hole in the housing, and the opposite end of the first wire extends through another through hole in the housing.

16. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 14, including a first engaging member engaging the opposite end of the first wire, and a second engaging member engaging the opposite end of the second wire, the first spring being disposed between the first engaging member and the housing, and the second spring being disposed between the second engaging member and the housing.

17. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 13, wherein the lower roller supporting member comprises a plurality of guide rollers which are movable along a guide rail.

18. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 13, wherein the lower roller supporting member comprises a bracket fixed to the slide door.

19. (Previously Presented) A slide door opening and closing device for a vehicle according to claim 13, wherein the first and second wires extend away from the lower roller supporting member in opposite directions.